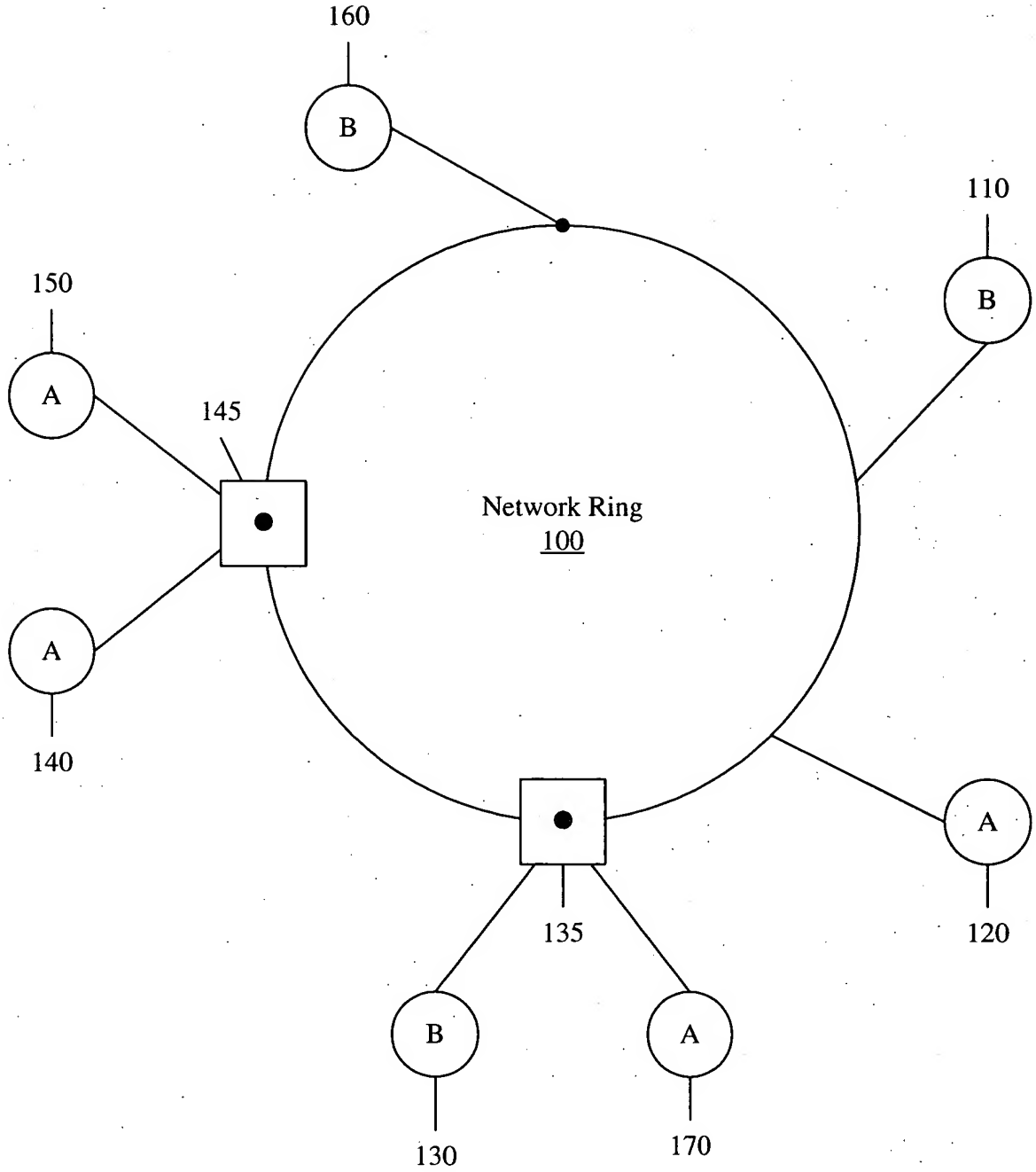

Figure 1
(prior art)

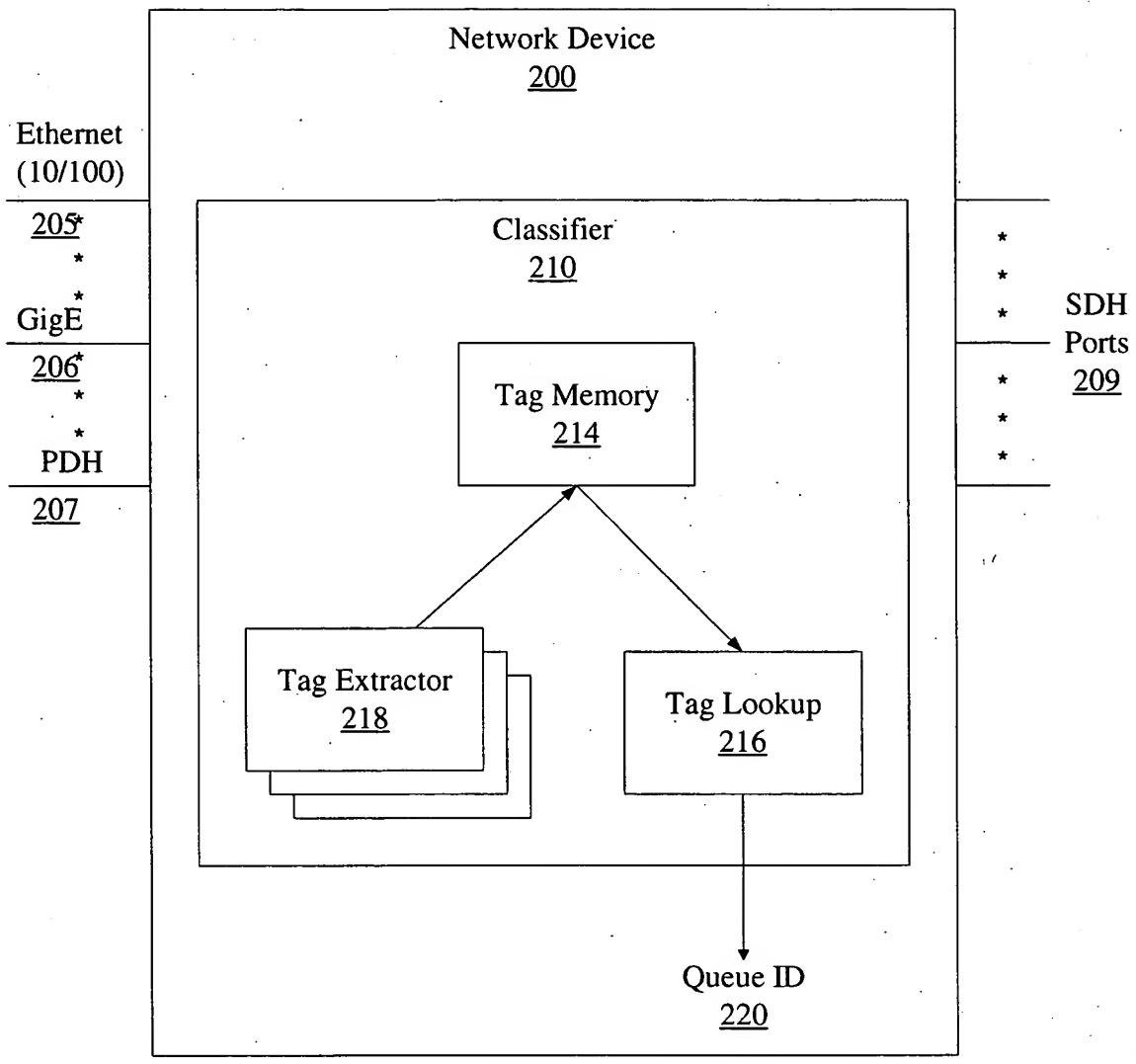
Network Device
200
Ethernet
(10/100)
205
GigE
206
PDH
207
Classifier
210
Tag Memory
214
Tag Extractor
218
Tag Lookup
216
Queue ID
220
SDH
Ports
209

Figure 2

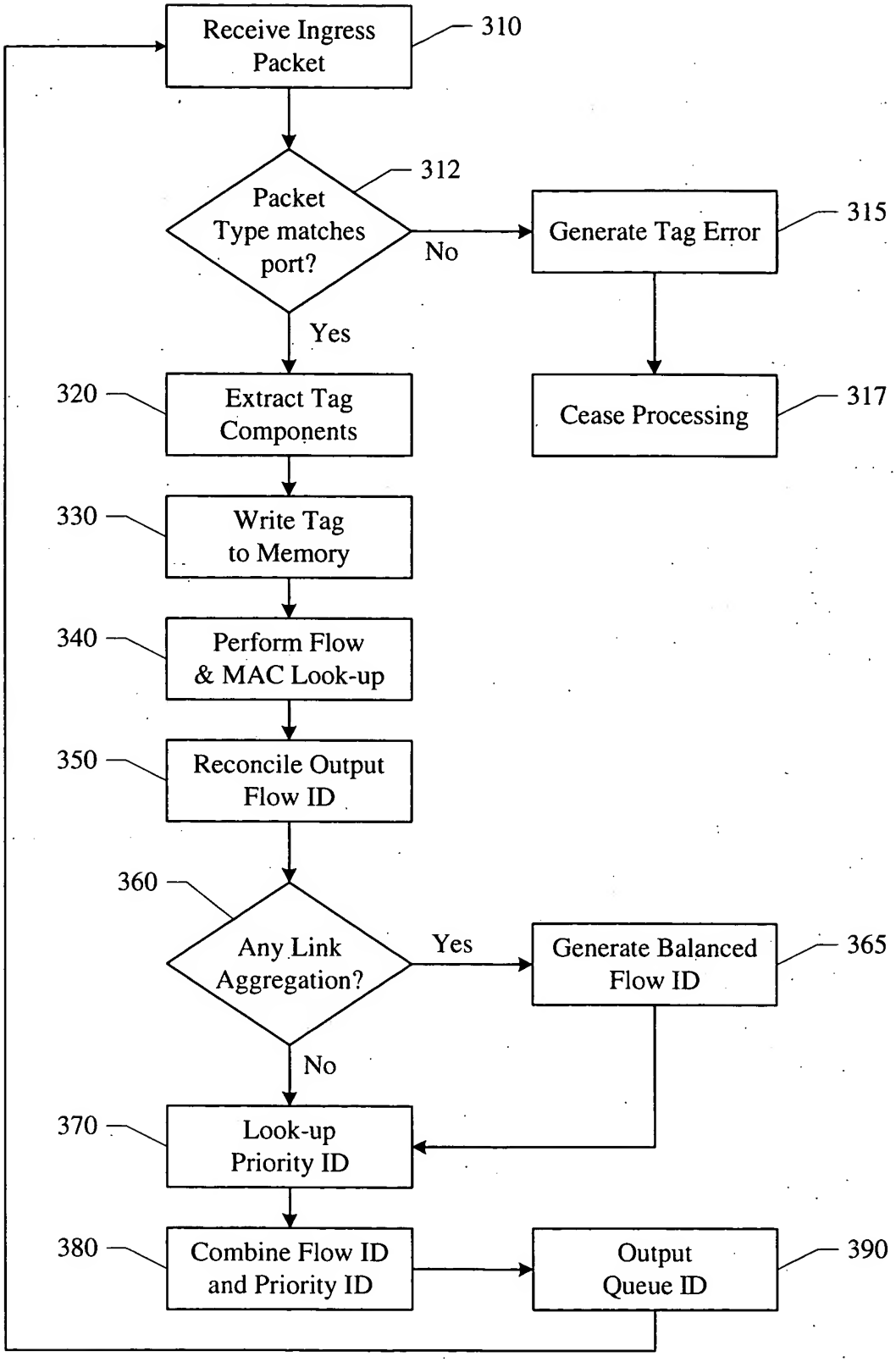
Receive Ingress Packet
310
Packet Type matches port?
312
No
Generate Tag Error
315
Yes
320
Extract Tag Components
Cease Processing
317
330
Write Tag to Memory
340
Perform Flow & MAC Look-up
350
Reconcile Output Flow ID
360
Any Link Aggregation?
Yes
Generate Balanced Flow ID
365
No
370
Look-up Priority ID
380
Combine Flow ID and Priority ID
Output Queue ID
390

Figure 3

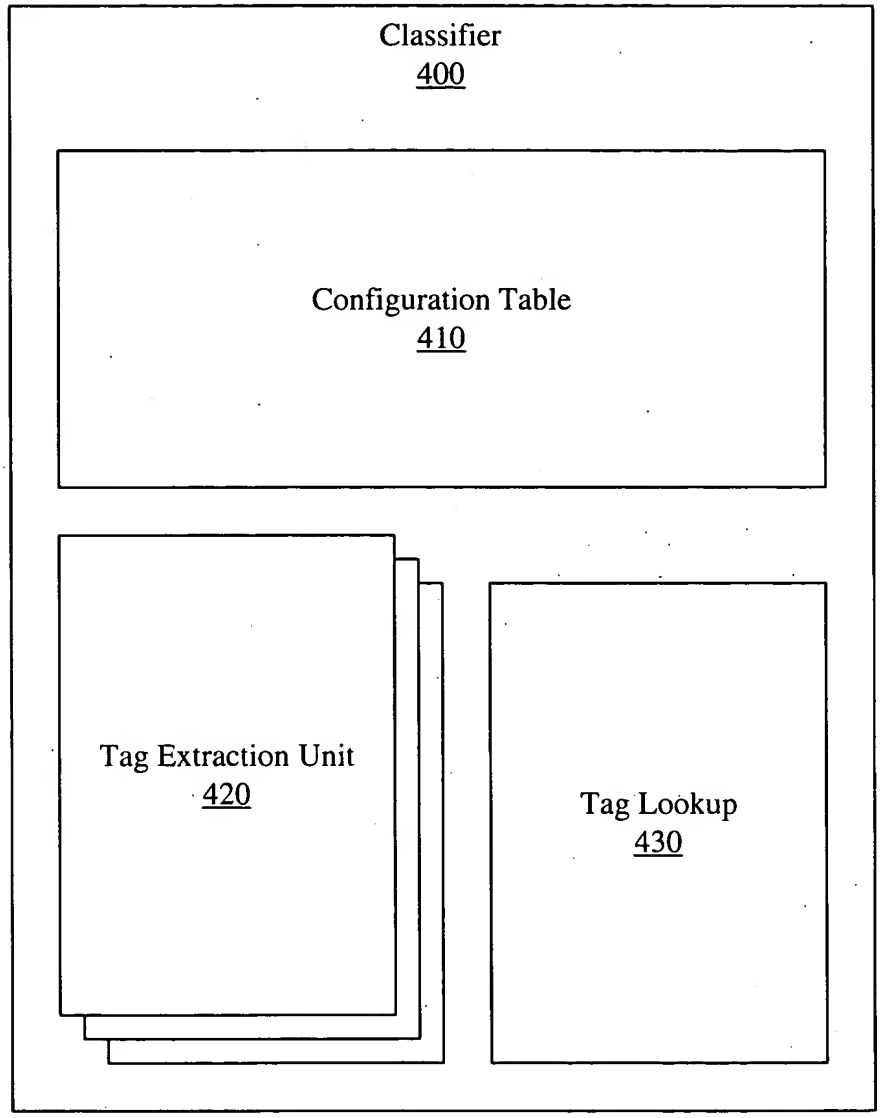
Classifier
400
Configuration Table
410
Tag Extraction Unit
420
Tag Lookup
430

Figure 4

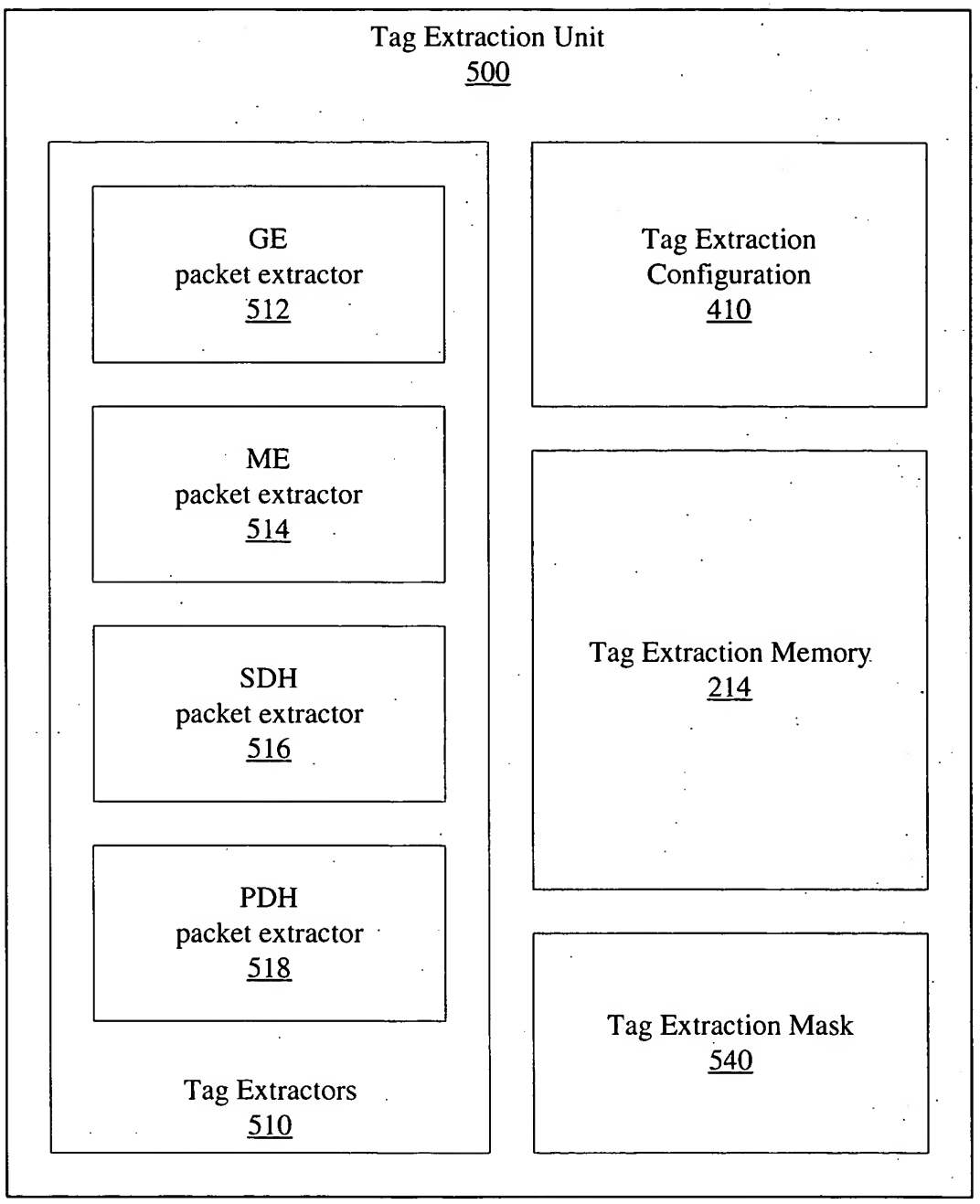
Tag Extraction Unit
500
GE
packet extractor
512
ME
packet extractor
514
SDH
packet extractor
516
PDH
packet extractor
518
Tag Extractors
510
Tag Extraction
Configuration
410
Tag Extraction Memory
214
Tag Extraction Mask
540

Figure 5

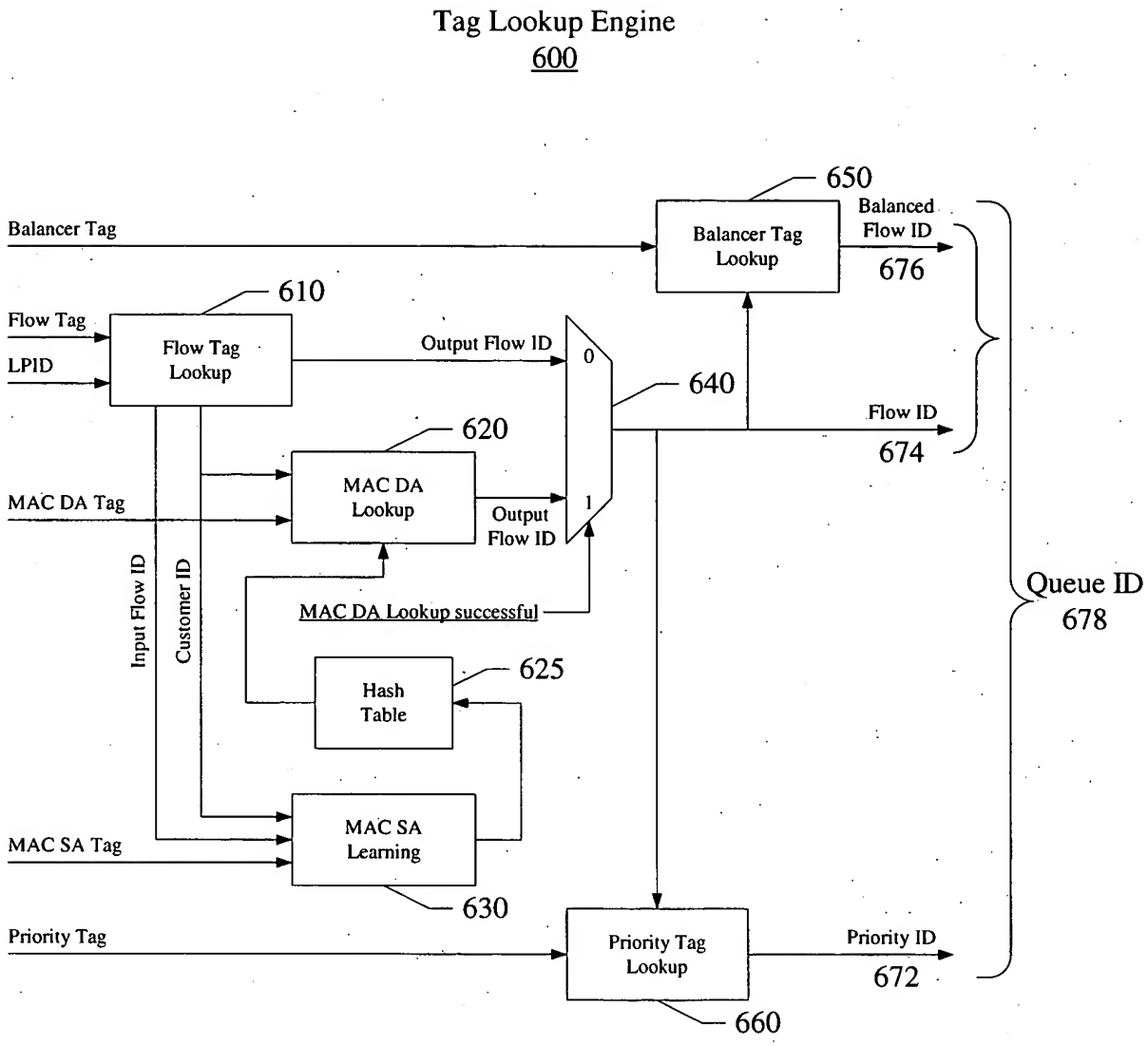
Tag Lookup Engine
600
650
Balancer Tag
Balancer Tag Lookup
Balanced Flow ID
676
610
Flow Tag
LPID
Flow Tag Lookup
Output Flow ID
0
640
Flow ID
674
620
MAC DA Tag
MAC DA Lookup
Output Flow ID
1
Input Flow ID
Customer ID
MAC DA Lookup successful
Queue ID
678
625
Hash Table
MAC SA Tag
MAC SA Learning
630
Priority Tag
Priority Tag Lookup
Priority ID
672
660

Figure 6

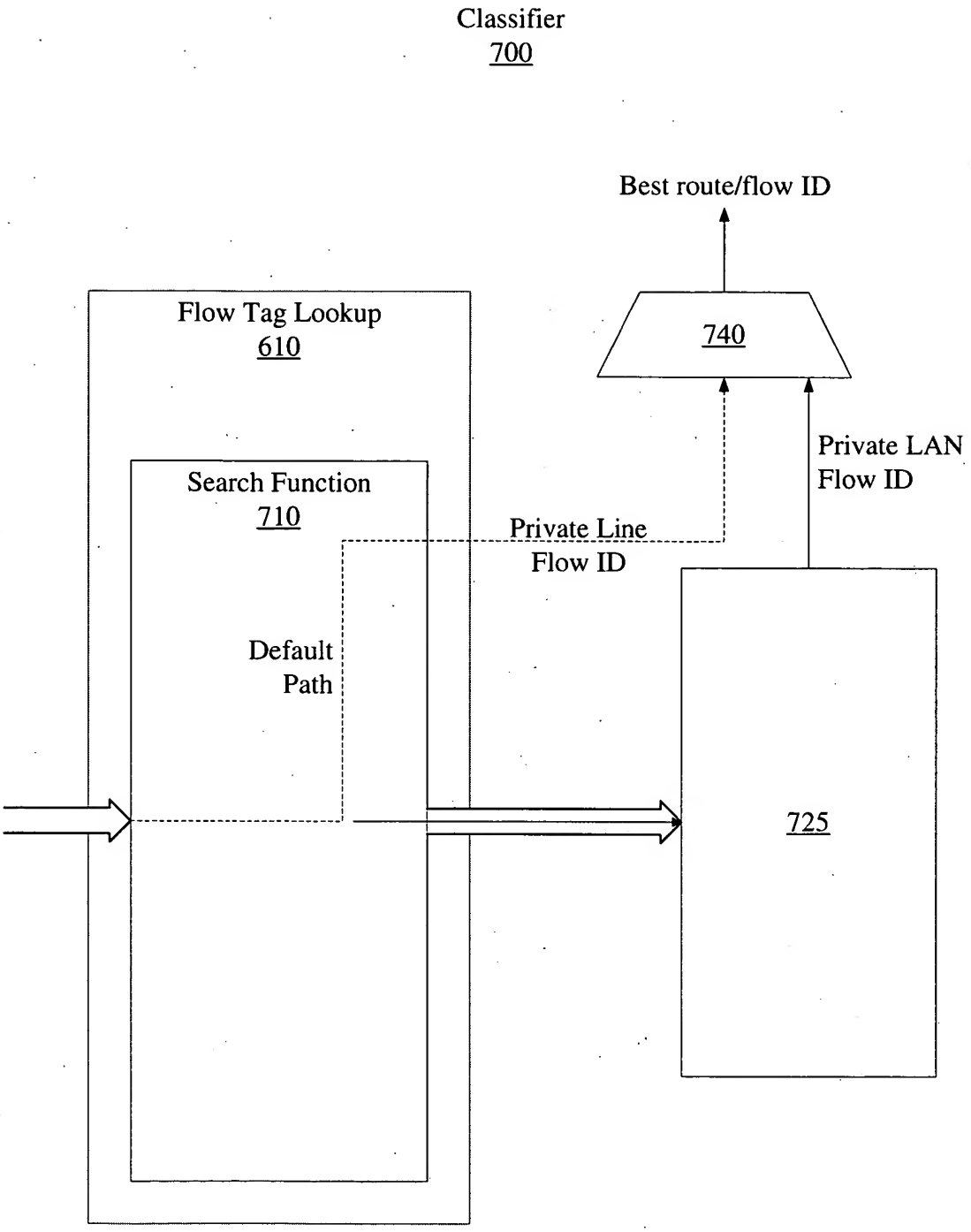
Classifier
700
Best route/flow ID
740
Flow Tag Lookup
610
Search Function
710
Private LAN
Flow ID
Private Line
Flow ID
Default
Path
725

Figure 7